

# Special Edition News From the Hoodoos



November 2019

## “Corral Bluffs is the center of the paleontologic universe.”

-George Sparks, President DMNS

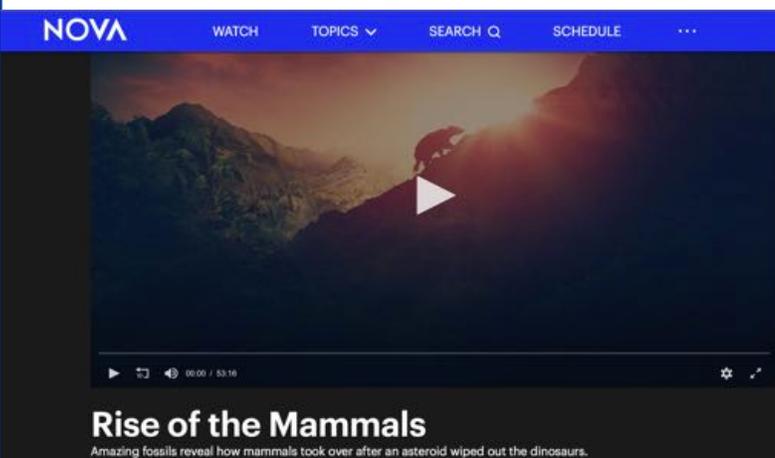
After years of work at Corral Bluffs, Dr. Tyler Lyson from the Denver Museum of Nature & Science and 15 other researching authors have had a paper published *Science Magazine*, the prestigious journal of the American Academy for the Advancement of Science. The title of the paper is:

*Exceptional continental record of the biotic recovery after the Cretaceous-Paleogene mass extinction.* It can be read online. Please see our website [www.corralbluffs.org](http://www.corralbluffs.org) for links to this paper and all nationwide media or to sign up for a guided hike.



## Corral Bluffs featured on NOVA PBS documentary!

On Thursday, October 30, the documentary, *Rise of the Mammals*, featuring the intense research performed by the Denver Museum of Nature & Science over the past several years at Corral Bluffs and Jimmy Camp Creek will be shown on PBS. Learn about the worldwide importance of the fossils that have been found. Also available online.



<https://www.pbs.org/wgbh/nova/video/rise-of-the-mammals/>



### Vertebrate Fossils

The vertebrate fossils at Corral Bluffs show how mammals evolved rapidly after the extinction of the dinosaurs. While dinosaurs roamed the mammals were small and mouse-like, hiding to avoid being eaten. Once there were no giant predators, mammals were able to escape their holes, and within one million years evolved to grow to about 100 pounds. The most common ancient mammals at Corral Bluffs were *Carsioptychus*, *Ectoconus* and *Taeniolabis*. Other interesting vertebrates include a new species of crocodile and a new turtle.

### Paleomagnetism

About every 500,000 years or so, the direction of the Earth's magnetic field reverses. Today the north pole is our magnetic pole, but at previous times in geologic history the south pole has been the magnetic pole. The minerals in the rocks as Corral Bluffs record the direction of the magnetic field over time. The data from these rocks, have helped geologists from the University of New Hampshire to place all fossils in time and to determine the location of the K-Pg boundary and



### Fossil Pollen

Each plant has its own form of pollen and even these tiny pollen grains can be fossilized. Dr. Antoine Bercovici, DMNS research associate, collected and analyzed 6,000 fossil pollen grains. He was able to distinguish between Cretaceous age and Paleogene (Tertiary) age pollens in order to isolate the location of the K-Pg boundary and to document the recovery of the plant communities.

## Paleobotany and Paleoecology

Paleobotanist, Dr. Ian Miller, collected six thousand fossil leaves from Corral Bluffs. The research showed changes in plants over time after the extinction event. Ferns were the first to flourish, followed later by palms. Forests of trees with large, smooth-edged leaves eventually covered the land providing evidence for a warm, wet, subtropical climate.

## Geology

The elevation 66 million years ago was barely above sea level and the mountains were uplifting to the west. Rivers flowing down from the mountains deposited sediment layer after layer forming the land that would be the future Corral Bluffs.

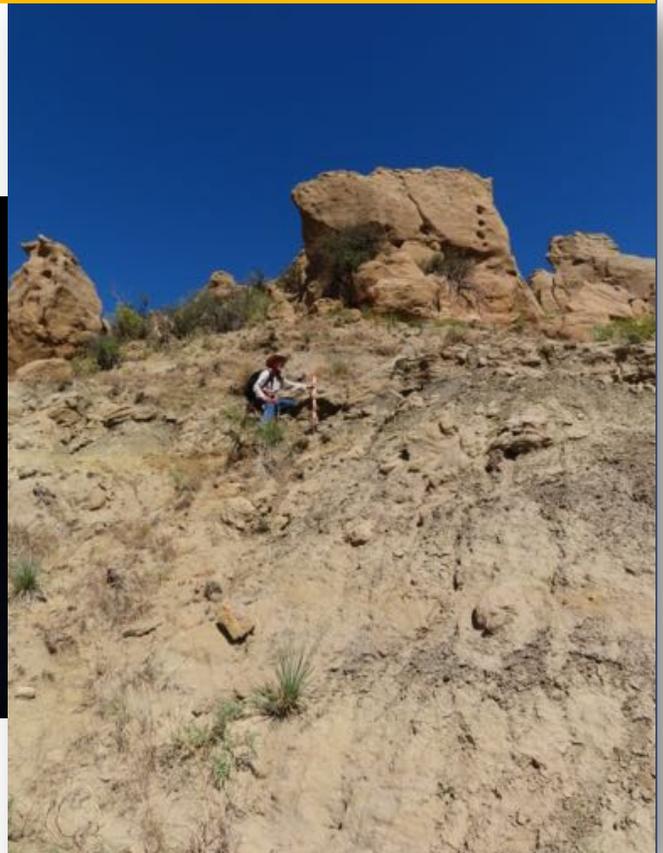
To place all fossils in the correct position in time the stratigraphy was carefully documented. Strata are the layers of rock, placed one above the other in order of oldest on the bottom, youngest on the top. Dr. Ken Weissenburger carefully walked layer after layer of rock connecting Jimmy Camp rock east to the Corral Bluffs Open Space. Within those layers every fossil has been placed in geologic time, along with the K-Pg boundary and the paleomagnetic reversals.

## Corral Bluffs fossils tell the story of the origin of our world.

Dr. Tyler Lyson



An overhead shot of the prepared mammal skull fossils and lower jaw retrieved from Corral Bluffs. HHMI Tangled Bank Studios





Contact us at [corralbluffs@aol.com](mailto:corralbluffs@aol.com)

Check our website: [www.corralbluffs.org](http://www.corralbluffs.org)

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The following groups and institutions have conducted research and/or spent extended time at Corral Bluffs Open Space/Jimmy Camp Creek Park. Follow the links for more information.

[Denver Museum of Nature & Science](#)

[Smithsonian Institution](#)

[Colorado College](#)

[Colorado Parks and Wildlife](#)

[Colorado Natural Areas Program](#)

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*Join us for a guided hike! Go to our website to view and sign up for upcoming hikes. Follow us on Facebook for news and updates.*

